

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An illumination ~~apparatus including apparatus,~~
comprising:
_____ a pair of electrodes;
_____ a light emitting tube which has a light emitting portion ~~performing to perform~~
light emission between a pair of electrodes, and the pair of electrodes;
_____ a sealing portion located ~~on a~~ at a front side ~~and of the light emitting tube;~~
_____ a sealing portion located ~~on a~~ at a rear side of the light emitting tube, with the
light emitting portion interposed ~~therebetween,~~ between the sealing portions;
_____ a first reflector ~~which is~~ arranged on a rear side with respect to the light
emitting portion of the light emitting ~~tube,~~ tube; and
_____ a second reflector ~~which is~~ arranged on a front side with respect to the light
emitting portion, ~~characterized in:~~
that ~~said the~~ second reflector is being attached to ~~said the~~ sealing portion
located on the front side, so that its reflection surface may surround substantially ~~front a front~~
half of ~~said the~~ light emitting portion; and
that a heat capacity of the front-side electrode of ~~said the~~ pair of electrodes as
is ~~that is~~ surrounded with ~~said the~~ second ~~reflector is~~ reflector, being made larger than a heat
capacity of the rear-side electrode.
2. (Currently Amended) ~~An~~ The illumination apparatus as defined in claim 1,
~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes is being held in
touch with an inner surface of ~~said the~~ light emitting tube.

3. (Currently Amended) An illumination ~~apparatus including apparatus,~~
comprising:
_____ a pair of electrodes;
_____ a light emitting tube which has a light emitting portion ~~performing to perform~~
light emission between ~~a pair of electrodes, and the pair of electrodes;~~
_____ a sealing portion located ~~on a~~ at a front side ~~and of the light emitting tube;~~
_____ a sealing portion located ~~on a~~ at a rear side of the light emitting tube with the
light emitting portion interposed ~~therebetween,~~ between the sealing portions;
_____ a first reflector ~~which is arranged on a rear side with respect to the light~~
emitting portion of the light emitting ~~tube, tube;~~ tube; and
_____ a second reflector ~~which is arranged on a front side with respect to the light~~
emitting portion, ~~characterized in:~~
that ~~said the~~ second reflector is being attached to ~~said the~~ sealing portion
located on the front side, so that its reflection surface may surround substantially ~~front a front~~
half of ~~said the~~ light emitting portion; and
that an electrode shaft which supports the front-side electrode of ~~said the~~ pair
of electrodes ~~as is that is~~ surrounded with ~~said the~~ second reflector ~~is being~~ made thicker
and/or longer than an electrode shaft which supports the rear-side electrode.

4. (Currently Amended) ~~An~~ The illumination apparatus as defined in claim 3,
~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes is being held in
touch with an inner surface of ~~said the~~ light emitting tube.

5. (Currently Amended) An illumination ~~apparatus including apparatus,~~
comprising:
_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion ~~performing light to~~
~~perform light~~ emission between a ~~pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a~~ at a front side and of the light emitting tube;

_____ a sealing portion located ~~on a~~ at a rear side of the light emitting tube with the
light emitting portion interposed ~~therebetween,~~ between the sealing portions;

_____ a first reflector ~~which is arranged on a rear side with respect to the light~~
emitting portion of the light emitting ~~tube, tube;~~ and

_____ a second reflector ~~which is arranged on a front side with respect to the light~~
emitting portion, ~~characterized in:~~

~~that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing portion
located on the front side, so that its reflection surface may surround substantially ~~front a front~~
half of ~~said the~~ light emitting portion; and

~~that said the~~ sealing portion located on the front side ~~is being~~ made thicker
than ~~said the~~ sealing portion located on the rear side.

6. (Currently Amended) ~~An~~ The illumination apparatus as defined in claim 5,
~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes ~~is being~~ held in
touch with an inner surface of ~~said the~~ light emitting tube.

7. (Currently Amended) An illumination ~~apparatus including apparatus,~~
comprising:

_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion ~~performing to perform~~
light emission between a ~~pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a~~ at a front side and of the light emitting tube;

_____ a sealing portion located ~~on a~~ at a rear side of the light emitting tube with the
light emitting portion interposed ~~therebetween,~~ between the sealing portions;

_____ a first reflector ~~which is~~ arranged on a rear side with respect to the light emitting portion of the light emitting ~~tube, tube;~~ and

_____ a second reflector ~~which is~~ arranged on a front side with respect to the light emitting portion, ~~characterized in:~~

~~that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing portion located on the front side, so that its reflection surface may surround substantially ~~front a front~~ half of ~~said the~~ light emitting portion; and

~~that said the~~ sealing portion located on the front side ~~is being~~ coated with a heat radiation material which is higher in thermal conductivity than a material of ~~said the~~ sealing portion.

8. (Currently Amended) ~~An~~The illumination apparatus as defined in claim 7, ~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes ~~is being~~ held in touch with an inner surface of said light emitting tube.

9. (Currently Amended) An illumination ~~apparatus including apparatus,~~ comprising:

_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion ~~performing to perform~~ light emission between ~~a pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located on a front side ~~and of the light emitting tube;~~

_____ a sealing portion located on a rear side of the light emitting tube with the light emitting portion interposed ~~therebetween, between the sealing portions;~~

_____ a first reflector ~~which is~~ arranged on a rear side with respect to the light emitting portion of the light emitting ~~tube, tube;~~ and

_____ a second reflector ~~which is~~ arranged on a front side with respect to the light emitting portion, ~~characterized in:~~

~~that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing portion located on the front side, so that its reflection surface may surround substantially ~~front a front~~ half of ~~said the~~ light emitting portion; and

~~that a~~ wall thickness of ~~that the~~ front side of ~~said the~~ light emitting portion of ~~said the~~ light emitting tube which is surrounded with ~~said the~~ second reflector ~~is being~~ greater than a wall thickness of a rear side of ~~said the~~ light emitting portion.

10. (Currently Amended) ~~An~~ The illumination apparatus as defined in claim 9, ~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes ~~is being~~ held in touch with an inner surface of ~~said the~~ light emitting tube.

11. (Currently Amended) An illumination ~~apparatus including apparatus,~~ comprising:

_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion performing light emission between ~~a pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a at a~~ front side ~~and of the~~ light emitting tube;

_____ a sealing portion located ~~on a at a~~ rear side ~~of the~~ light emitting tube with the light emitting portion interposed ~~therebetween,~~ between the sealing portions;

_____ a first reflector ~~which is~~ arranged on a rear side with respect to the light emitting portion of the light emitting ~~tube, tube;~~ and

_____ a second reflector ~~which is~~ arranged on a front side with respect to the light emitting portion, ~~characterized in:~~

~~that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing portion located on the front side, so that its reflection surface may surround substantially ~~front a front~~ half of ~~said the~~ light emitting portion; and

~~that an end part of the front-side electrode of said the pair of electrodes as that~~
is surrounded with ~~said the~~ second reflector ~~is being~~ held in touch with an inner surface of
~~said the~~ light emitting tube.

12. (Currently Amended) An illumination ~~apparatus including apparatus,~~
comprising:
_____ a pair of electrodes;
_____ a light emitting tube which has a light emitting portion performing to perform
light emission between ~~a pair of electrodes, and the pair of electrodes;~~
_____ a sealing portion located on a at a front side and of the light emitting tube;
_____ a sealing portion located on a at a rear side of the light emitting tube with the
light emitting portion interposed ~~therebetween, between the sealing portions;~~
_____ a first reflector which is arranged on a rear side with respect to the light
emitting portion of the light emitting ~~tube, tube;~~ and
_____ a second reflector which is arranged on a front side with respect to the light
emitting portion, characterized in:

~~that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing portion
located on the front side, so that its reflection surface may surround substantially ~~front a front~~
half of ~~said the~~ light emitting portion;

~~that a pair of electrode shafts which support said the pair of electrodes,~~
respectively, ~~are being~~ included;

~~that said the~~ pair of electrode shafts ~~are being~~ respectively furnished with heat
conduction parts at their end parts on sides on which they are connected with ~~said the~~ pair of
electrodes; and

~~that~~ a heat capacity of the heat conduction part of the front-side electrode of ~~said the~~ pair of electrodes ~~as is that is~~ surrounded with ~~said the~~ second reflector ~~is being~~ made larger than a heat capacity of the heat conduction part of the rear-side electrode.

13. (Currently Amended) ~~In a projector having~~ A projector, comprising:

~~_____ an illumination apparatus, and apparatus;~~

~~_____ an optical modulation device into which light from the illumination apparatus is entered and which modulates the entered light in accordance with given video-image information;~~

~~_____ a projector characterized in:~~

~~that said the~~ illumination apparatus ~~is being~~ an illumination apparatus ~~including further including:~~

~~_____ a pair of electrodes;~~

~~_____ a light emitting tube which has a light emitting portion performing to perform light emission between a pair of electrodes, and the pair of electrodes;~~

~~_____ a sealing portion located on a at a front side of the light emitting tubes;~~

and

~~_____ a sealing portion located on a at a rear side of the light emitting tube with the light emitting portion interposed therebetween, between the sealing portions;~~

~~_____ a first reflector which is arranged on a rear side with respect to said the light emitting portion of said the light emitting tube, and a second reflector which is arranged on a front side with respect to said the light emitting portion;~~

~~_____ that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing portion located on the front side, so that its reflection surface may surround substantially ~~front~~ a front half of ~~said the~~ light emitting portion; and

_____ ~~that a heat capacity of the front-side electrode of said the pair of~~
electrodes ~~as is that is~~ surrounded with ~~said the~~ second reflector ~~is being~~ made larger than a
heat capacity of the rear-side electrode.

14. (Currently Amended) ~~An illumination apparatus~~ The projector as defined in
claim 13, ~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes ~~is being~~
held in touch with an inner surface of ~~said the~~ light emitting tube.

15. (Currently Amended) ~~In a projector having~~ A projector, comprising:
_____ an illumination apparatus, ~~apparatus;~~ and
_____ an optical modulation device into which light from the illumination apparatus
is entered and which modulates the entered light in accordance with given ~~video image~~
information;

_____ ~~a projector characterized in:~~

~~that said the~~ illumination apparatus ~~is being~~ an illumination apparatus
~~including further including:~~

_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion ~~performing to~~
perform light emission between ~~a pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a at a~~ front side ~~and of the~~ light emitting
tube;

_____ a sealing portion located ~~on a at a~~ rear side of the light emitting tube
with the light emitting portion interposed ~~therebetween;~~ between the sealing portions;

_____ a first reflector ~~which is~~ arranged on a rear side with respect to ~~said the~~
light emitting portion of ~~said the~~ light emitting tube, tube; and a

_____ second reflector ~~which is~~ arranged on a front side with respect to ~~said~~
the light emitting portion;

_____ ~~that said the~~ second reflector is being attached to ~~said the~~ sealing portion located on the front side, so that its reflection surface may surround substantially ~~front~~ a front half of ~~said the~~ light emitting portion; and

_____ ~~that an~~ electrode shaft which supports the front-side electrode of ~~said the pair of electrodes as is that is~~ surrounded with ~~said the~~ second reflector is being made thicker and/or longer than an electrode shaft which supports the rear-side electrode.

16. (Currently Amended) ~~An illumination apparatus~~ The projector as defined in claim 15, ~~characterized in that an end part of at least one of said the pair of electrodes is being~~ held in touch with an inner surface of ~~said the~~ light emitting tube.

17. (Currently Amended) ~~In a projector having~~ A project, comprising:
_____ an illumination ~~apparatus, apparatus;~~ and
_____ an optical modulation device into which light from the illumination apparatus is entered and which modulates the entered light in accordance with given ~~video image~~ information;

_____ a projector characterized in:
~~that said the~~ illumination apparatus is an illumination apparatus ~~including~~ further including:

_____ a pair of electrodes;
_____ a light emitting tube which has a light emitting portion performing to perform light emission between ~~a pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a at a front side and side of the light~~ emitting tube;

_____ a sealing portion located on a rear side of the light emitting tube with the light emitting portion interposed ~~therebetween,~~ between the sealing portions;

_____ a first reflector ~~which is arranged on a rear side with respect to said the~~
light emitting portion of ~~said the~~ light emitting tube, ~~and tube;~~ and
_____ a second reflector ~~which is arranged on a front side with respect to said~~
the light emitting portion;
_____ ~~that said the~~ second reflector is being attached to ~~said the~~ sealing
portion located on the front side, so that its reflection surface may surround substantially ~~front~~
a front half of ~~said the~~ light emitting portion; and
_____ ~~that said the~~ sealing portion located on the front side is being made
thicker than ~~said the~~ sealing portion located on the rear side.

18. (Currently Amended) ~~An illumination apparatus~~ The projector as defined in
claim 17, ~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes is being
held in touch with an inner surface of ~~said the~~ light emitting tube.

19. (Currently Amended) ~~In a projector having~~ A projector, comprising:
_____ an illumination ~~apparatus,~~ apparatus; and
_____ an optical modulation device into which light from the illumination apparatus
is entered and which modulates the entered light in accordance with given ~~video~~ image
information;

_____ ~~a projector characterized in:~~
that said the illumination apparatus is an illumination apparatus further
including;

_____ a pair of electrodes;
_____ a light emitting tube which has a light emitting portion performing to
perform light emission between ~~a pair of electrodes,~~ the pair of electrodes; and
_____ a sealing portion located ~~on a~~ at a front side ~~and of the~~ light emitting
tube;

_____ a sealing portion located on a rear side of the light emitting tube with the light emitting portion interposed ~~therebetween~~, between the sealing portion;

_____ a first reflector ~~which is~~ arranged on a rear side with respect to ~~said the~~ light emitting portion of ~~said the~~ light emitting tube, tube; and

_____ a second reflector ~~which is~~ arranged on a front side with respect to ~~said the~~ light emitting portion;

_____ ~~that said the~~ second reflector is being attached to ~~said the~~ sealing portion located on the front side, so that its reflection surface may surround substantially ~~front~~ a front half of ~~said the~~ light emitting portion; and

_____ ~~that said the~~ sealing portion located on the front side is being coated with a heat radiation material which is higher in thermal conductivity than a material of ~~said the~~ sealing portion.

20. (Currently Amended) ~~An illumination apparatus~~ The projector as defined in claim 19, ~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes is being held in touch with an inner surface of ~~said the~~ light emitting tube.

21. (Currently Amended) ~~In a projector having~~ A projector, comprising:
_____ ~~an illumination apparatus,~~ apparatus; and
_____ an optical modulation device into which light from the illumination apparatus is entered and which modulates the entered light in accordance with given ~~video image~~ information;

_____ ~~a projector characterized in:~~

~~that said the~~ illumination apparatus is an illumination apparatus ~~including~~ further including:

_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion ~~performing to~~
~~perform~~ light emission between a ~~pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a~~ at a front side ~~and of the light emitting~~
~~tube;~~

_____ a sealing portion located ~~on a~~ at a rear side ~~of the light emitting tube~~
with the light emitting portion interposed ~~therebetween, between the sealing portions;~~

_____ a first reflector ~~which is arranged~~ on a rear side with respect to ~~said the~~
light emitting portion of ~~said the~~ light emitting ~~tube, tube;~~ and

_____ a second reflector ~~which is arranged~~ on a front side with respect to ~~said~~
~~the~~ light emitting portion;

_____ ~~that said the~~ second reflector is ~~being~~ attached to ~~said the~~ sealing
portion located on the front side, so that its reflection surface may surround substantially ~~front~~
a ~~front~~ half of ~~said the~~ light emitting portion; and

_____ ~~that a~~ wall thickness of that front side of ~~said the~~ light emitting portion
of ~~said the~~ light emitting tube which is surrounded with ~~said the~~ second reflector is ~~being~~
greater than a wall thickness of a rear side of ~~said the~~ light emitting portion.

22. (Currently Amended) ~~An illumination apparatus~~ The projector as defined in
claim 21, ~~characterized in that~~ an end part of at least one of ~~said the~~ pair of electrodes is ~~being~~
held in touch with an inner surface of ~~said the~~ light emitting tube.

23. (Currently Amended) ~~In a projector having~~ A projector, comprising:
_____ an illumination ~~apparatus,~~ apparatus; and
_____ an optical modulation device into which light from the illumination apparatus
is entered and which modulates the entered light in accordance with given ~~video image~~
information;

_____ a projector characterized in:

~~that said the~~ illumination apparatus is an illumination apparatus ~~including~~
further including:

_____ a pair of electrodes;

_____ a light emitting tube which has a light emitting portion ~~performing to~~
perform light emission between ~~a pair the pair~~ of electrodes, and

_____ a sealing portion located ~~on a at a~~ front side ~~and of the~~ light emitting
tube;

_____ a sealing portion located ~~on a at a~~ rear side of the light emitting tube
with the light emitting portion interposed ~~therebetween,~~ between the sealing portions;

_____ a first reflector ~~which is~~ arranged on a rear side with respect to ~~said the~~
light emitting portion of ~~said the~~ light emitting tube, ~~and tube;~~

_____ a second reflector ~~which is~~ arranged on a front side with respect to ~~said~~
the light emitting portion;

_____ ~~that said the~~ second reflector is being attached to ~~said the~~ sealing
portion located on the front side, so that its reflection surface may surround substantially ~~front~~
a front half of ~~said the~~ light emitting portion; and

_____ ~~that an~~ end part of the front-side electrode of ~~said the~~ pair of electrodes
~~as is that is~~ surrounded with ~~said the~~ second reflector is being held in touch with an inner
surface of ~~said the~~ light emitting tube.

24. (Currently Amended) ~~In a projector having~~ A projector, comprising:

_____ an illumination ~~apparatus,~~ apparatus; and

_____ an optical modulation device into which light from the illumination apparatus
is entered and which modulates the entered light in accordance with given ~~video image~~
information;

_____ a projector characterized in:

~~that said the~~ illumination apparatus is an illumination apparatus ~~including~~
further including:

_____ a light emitting tube which has a light emitting portion ~~performing to~~
perform light emission between a ~~pair of electrodes, and the pair of electrodes;~~

_____ a sealing portion located ~~on a at a front side and side of the light~~
emitting tube;

_____ a sealing portion located ~~on a at a rear side of the light emitting tube~~
with the light emitting portion interposed ~~therebetween, between the sealing portions;~~

_____ a first reflector ~~which is arranged on a rear side with respect to said the~~
light emitting portion of ~~said the light emitting tube, and tube; and~~

_____ a second reflector ~~which is arranged on a front side with respect to said~~
the light emitting portion;

_____ ~~that said the~~ second reflector ~~is being~~ attached to ~~said the~~ sealing
portion located on the front side, so that its reflection surface may surround substantially ~~front~~
a front half of ~~said the~~ light emitting portion;

_____ ~~that a~~ pair of electrode shafts which support ~~said the~~ pair of electrodes,
respectively, ~~are being~~ included;

_____ ~~that said the~~ pair of electrode shafts ~~are being~~ respectively furnished
with heat conduction parts at their end parts on sides on which they are connected with ~~said~~
the pair of electrodes; and

~~that a~~ heat capacity of the heat conduction part of the front-side electrode of
~~said the~~ pair of electrodes as is surrounded with ~~said the~~ second reflector ~~is being~~ made larger
than a heat capacity of the heat conduction part of the rear-side electrode.